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Testing for sexually transmitted infections

A paradigm shift in testing for sexually transmitted infections

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A new set of UK guidelines on screening and testing for sexually transmitted infection

The way in which sexually transmitted infection (STI) services are delivered in the UK is hardly recognisable to those practising 20 or even 10 years ago, and the pace of change shows no sign of slowing. The changes have been driven by the need to modernise services and improve efficiency, and have had three main components: (1) improvements in information/communication technology; (2) new systems or pathways of care in clinics; (3) advances in diagnostic testing. Thus, we see the increased use of mobile phones and email to communicate with our patients, the integration of computer systems in laboratories with clinic computers, the use of the internet for health education and contact tracing, and also look forward to the holy grail of an electronic patient record.^{1–2} We are also learning to use these information/communication technologies in a more productive way by changing the skill mix of clinic staff and reviewing patient care pathways to allow more patients to be seen alongside maintaining a high-quality service.³

In this changing environment, we must not forget that the accurate and timely diagnosis of STIs remains a core function of any genitourinary medicine or sexual health clinic. New technologies offer the tantalising prospects of more accurate diagnosis, faster turnaround times, and the collection of specimens by patients themselves, without the need for an examination. However, these developments should be viewed in the context of new commissioning and funding arrangements in the UK that will determine how quickly they can be implemented at a local level. Payment by results (PbR) currently

pays a fixed tariff for each sexual health screen performed.⁴ But PbR is based on historical costs which do not incorporate these new laboratory technologies, and so, if we are to implement new tests to improve patient care, we have to agree to new standards. The specific issues are as follows:

- What constitutes an STI screen—which infections should be tested for and how should this be modified in the presence of different symptoms, sex or sexual orientation?
- What tests should be used for each infection—which tests are optimal or acceptable, and which are not recommended?
- What specimen should be used for each test?

The *Sexually transmitted infection screening and testing guidelines*⁵ provide an evidence-based approach to each of these issues. Commissioned by the Clinical Effectiveness Group of the British Association for Sexual Health and HIV, they have been developed under the appraisal of guidelines research and evaluation methodological framework,⁶ with contributions from over 20 national and international experts. The recommendations they contain were developed specifically for genitourinary medicine and sexual health clinics, but may also provide guidance in other healthcare settings which wish to optimise the diagnosis of STIs.

The guidelines are divided into two sections:

1. Summary tables: These recommend which tests should be taken and

from what sites. Separate tables are available for heterosexual men, women, men who have sex with men, those presenting with genital discharge and those presenting with genital ulceration.

2. Testing guidelines for individual STIs: A separate chapter for each STI provides further detail on testing options and the evidence base for recommendations.

The guidelines have been designed to help clinicians decide which tests are most appropriate for their patients and are not intended to be prescriptive, although many of the recommendations are already standard practice. However, some others will need a modification in practice. These include:

- not screening for non-specific urethritis in asymptomatic men
- the use of nucleic acid amplification tests (NAAT) in preference to culture to detect herpes because of its improved sensitivity
- the inclusion of NAATs for gonorrhoea, although the guidelines continue to recommend the isolation of *Neisseria gonorrhoeae* to confirm gonococcal infection until the commercially available tests have been fully evaluated with different specimen types and in populations with both high and low prevalence.

For many years, standard teaching and practice in the UK, but not in all parts of the world, has been that a Gram-stained urethral smear was required as part of the routine examination of all male patients. This is still clearly indicated as part of the examination of symptomatic men in whom a diagnosis of gonorrhoea is a real possibility, and in these cases the smear may provide a rapid diagnosis. However, the evidence no longer supports routinely performing the urethral smear in men without symptoms. Those who advocate its continued use in this situation argue that a noticeable minority of men (17–36%^{7–9}) with chlamydial urethritis will receive an immediate diagnosis and hence treatment, following to the detection of urethritis by microscopy. In others diagnosis and treatment would be delayed, pending the result of a specific

chlamydial test from a laboratory. However, contrary to this is the more powerful argument that the great majority, probably approaching 90%, of men with asymptomatic urethritis will not have any significant pathogen. This enormous overdiagnosis of a probable, or possible, sexually transmitted infection (depending on how the clinician seeks to explain the finding to the patient) can therefore lead to considerable unnecessary treatment and, as a result of notifying partners, considerable anxiety and damage to relationships, for both the male patients and their female partners.

The publication of the *Sexually transmitted infection screening and testing guidelines* provides an opportunity to take a consistent approach to STI screening and testing. They also give a basis for calculating future PbR tariffs and help create a level playing

field for the provision of sexual health screening across the country.

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Testing for sexually transmitted infections: a brave new world?

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The sensitivity of nucleic acid amplification tests has made it possible to use non-invasive specimens, such as urine or vaginal swabs, for the diagnosis and screening for major bacterial sexually transmitted infections (STIs). As these specimens can be stored and transported at ambient temperatures, there has been a proliferation of internet-based STI testing services that are advertised as private, safe and confidential. The tests used and the quality of the testing on these internet services are unknown. Simple rapid tests for STIs are also available for purchase from the internet or “over the counter” from pharmacies or stores. Very few countries regulate STI tests sold. Even among the countries that regulate diagnostics for STIs, standards for evaluations are lacking, with the result that product inserts often contain inflated claims of test performance. Preliminary evaluations of some of the rapid chlamydial and gonococcal tests showed good specificity but limited sensitivity. The internet has been recognised in recent years as a new risk environment for STIs in both men and women, and efforts at

internet-based sexual health promotion are hopefully reaching those at risk. However, this trend in STI testing and the lack of regulatory control should raise considerable concern over the potential for false-positive or false-negative results. It remains unclear how many individuals with a positive result would access appropriate treatment and counselling, and notify their sexual partners for testing and treatment. There needs to be closer examination of the implications of these services on STI control programmes.

Imagine a teenager who just discovered that she has vaginal discharge. She has been in two short sexual relationships and has not been consistent with condom use. She is worried but is too scared to tell her parents or her sexual partners. She does not want to go to her family doctor or be seen going to the local clinic. In the privacy of her room, she goes on the internet to find out what she can do. She types in the search term, “testing for STDs”. She looks up the first five sites that come up.

The first site is <http://www.iwannaknow.org>. It is the site of the American

Social Health Association, where she can learn all about the basics of sexually transmitted infections (STIs) and where to get tested. The second site is <http://www.familydoctor.org>, a site put up by the American Academy of Family Physicians. It too gives comprehensive information on STIs, and tips on prevention. The third site is <http://www.4woman.org>, developed by the US Department of Health and Human Services, with information tailored for women who have a disproportionate share of the disease burden of STIs. The fourth and fifth websites are both commercial or sponsored sites, <http://www.mtv.com> and <http://www.coolnurse.com>, with links to educational information on STIs. All these sites give excellent educational information, but they all advise our teenager to go to a doctor or a clinic.

She then changes her search term to “home testing for STDs”. The first site is <http://www.iwantthekit.org>. This is a site set up by the City of Baltimore Department of Health in collaboration with the Johns Hopkins Medical School to encourage women ≥ 14 years of age to get tested for chlamydia. Requests for a chlamydia testing kit can be sent through the internet, email or telephone. A kit can be sent by mail or picked up at a pharmacy or a recreation centre. The kit consists of instructions for self-collection of a vaginal swab, a short questionnaire, a dacron swab and a mailing tube for the swab in a prepaid

Abbreviations: NAAT, nucleic acid-amplified test; SDI, World Health Organization Sexually Transmitted Diseases Diagnostics Initiative; STI, sexually transmitted infection; WHO, World Health Organization